Amendments to the Specification:

Please add the following paragraph on page 1, after the Title of the Invention:

-- CROSS REFERENCE TO RELATED APPLICATIONS

This application is a divisional application of application no. 09/394,824 filed on September 13, 1999 and entitled "Electronic Drawing Viewer", which is now pending.--

Please replace the paragraph beginning at page 3, line 3, with the following rewritten paragraph:

--According further to the present invention, displaying two views of an object, includes selecting a first one of the views, selecting a second one of the views, and moving at least one of the views so that the first view is in proximity to the second view. If the first view is a projection of the second view, moving at least one of the views may include snapping the views into alignment. Aligning the first and second views may include using transform matrices associated with each of the views. The transform matrices may correlate relative coordinates of each of the views with an absolute coordinate system. Selecting the first view and selecting the second view may include locating a cursor arrow on the views and clicking a mouse button. Selecting the first view and selecting the second view may include dragging and dropping at least one of the views into closer proximity with the other one of the views.--

Please replace the paragraph beginning at page 6, line 5, with the following rewritten paragraph:

--Fig. 8 depicts an object in a modeling window of a computer screen for illustrating a pointer process of the present[s] systems and methods.--

Please replace the paragraph beginning at page 6, line 9, with the following rewritten paragraph:

--Fig. 10 depicts a schematic diagram[s] with three two-dimensional views of the object of Fig. 9.--

Please replace the paragraph beginning at page 6, line 12, with the following rewritten paragraph:

--Figs.12 and 13 present, respectively, a [three dimensional] three-dimensional view of a pump housing during rotation and a two-dimensional view highlighted according to the process of the present invention.--

Please replace the paragraph beginning at page 7, line 1, with the following rewritten paragraph:

--Fig. 15 depicts an electronic drawing file according to the present invention.[.]--

Please replace the paragraph beginning at page 7, line 1, with the following rewritten paragraph:

--Fig. 17 is a flow chart [that indicates] indicating the steps for implementing the virtual folding feature described in connection with Figs.6, 7 and 8.--

Please replace the paragraph beginning at page 7, line 8, with the following rewritten paragraph:

--Fig. 19 is a flow chart that illustrates steps performed in connection with the animation feature [discussed above].--

Please replace the paragraph beginning at page 7, line 14, with the following rewritten paragraph:

--Referring to Fig. 1, a computerized modeling system 30 includes a CPU 31, a [C]computer screen 32, a keyboard input device 33, a mouse input device 34, and a storage device 35. The CPU 31, [C]computer screen 32, keyboard 33, mouse 34, and storage device 35 are conventional, commonly available, computer hardware devices such as a workstation or personal computer employing a microprocessor, such as a Pentium- or Pentium-II based processor or other conventional processor. The mouse 34 has conventional, user-actuatable, left and right buttons. Other appropriate computer hardware platforms are suitable as will become apparent from the discussion which follows. [s]Such computer hardware platforms are preferably capable of operating a software operating system capable of a graphical user interface, such as the Microsoft Windows NT, Windows 95, or Windows 98 operating systems, or a MacIntosh operating system from Apple Computer.--

Please replace the paragraph beginning at page 11, line 11, with the following rewritten paragraph:

--The methods and systems disclosed herein provide a virtual folding process that permits the user to place selected views near each other on the screen, while hiding views that are not selected. Thus, the virtual folding process permits the user to select the front view 44 and the section view 49, and to move the two views into proximity [to] of each other, as depicted in Fig. 6. Execution of a virtual folding

process may be executed by any conventional mechanism, such as a pull-down menu, an icon, a mouse operation, or the like. For example, a user might select a virtual folding process from a library of tools by clicking on a tools menu bar at the top of the computer screen 32. The user could then select views among those on the computer screen 32 by locating the cursor arrow on a particular view and clicking one of the buttons of the mouse. Alternatively, the virtual folding process could involve dragging and dropping a selected view into closer proximity with another view. Further details as to the virtual folding process are provided below.--

Please replace the paragraph beginning at page 12, line 3, with the following rewritten paragraph:

--Also provided herein as a part of the computer-based system is a hyperlink process for simultaneously highlighting the coordinates of a viewed object and a corresponding other view on a computer screen. Referring to Fig. 7, the front view 44 and the section view 50 include the coordinates A-A, representing the location of a cut through the object modeled in the model window 40 of the computer screen 32. The hyperlink process identifies coordinates and the respective views that appear in the computer screen 32 and, when the [arrow] cursor is positioned over a particular coordinate, the corresponding view is highlighted. For example, if the mouse is positioned over the coordinates A-A in the front view 44 at the location 52, then the section view 50 is also highlighted. Highlighting may be accomplished by changing the color, by using shading, or other conventional methods for highlighting an item of interest on a computer screen 32.--

Please replace the paragraph beginning at page 12, line 15, with the following rewritten paragraph:

--Also provided as a part of the computer-based system is a pointer for simultaneously pointing to the same point of a viewed object as the point appears in more than one view on a computer screen. Referring to Fig. 8, a pointer 56 may appear in one or more views of an object modeled in the modeling window 40 of the computer screen 32. For example, the pointer 56 may be located at the location 55 in the front view 44, which corresponds to the location 58 in the top view 48 and the location 60 in the detail view 54. When the pointer 56 is moved, such as by clicking and holding the mouse on the pointer 56, the pointer 56 moves in each of the views to a location that corresponds in each of the views. For example, if the pointer 56 is moved along a horizontal line in the view 44 to a location 61, then the pointer 56 in the top view 48 would move to a new location 62 in the section view 54. Similarly, the pointer 56 could move to a new location in the section view 54, but in this case, because the movement is along the axis of

sight of the viewer, no movement would be apparent. Depending on the relationship of the views, the pointer 56 might move quite differently in different view. For example, if views are skewed with respect to each other, then horizontal movement in one view might not result in any movement of the pointer in another view, because the horizontal movement might be along an axis of viewing in one of the views. The pointer process permits quick recognition of similar components in different views. A pointer may highlight a spot through color, shading, or other conventional means. Cross-hairs are depicted in Fig. 8 as an example of a pointer.--

Please replace the paragraph beginning at page 13, line 14, with the following rewritten paragraph:

--Also provided herein as part of the computer-based system is a drawing animator for rotating a three-dimensional depiction of a model about an axis of rotation and highlighting a two-dimensional view when the view is coincident with the plane of the drawing. Referring to Fig. 9, a simplified solid object is depicted in the modeling window 40 of the computer screen 32. Methods and systems for rotating such an object about one or more axes of rotation are well known in the area of [computer aided] computer-aided design, such as those provided in the Solid Works 99 product available from SolidWorks Corporation of Concord, Massachusetts. In an animator process that is associated with a two-dimensional drawing having a plurality of views, the process may highlight a view when it is presented to the user. For example, referring to Fig. 9, a simple step 74 is depicted having a front side 68, and top side 70 and a right side 72. The step 74 is presented in Fig. 9 as partially rotated to show these three sides, with shading representing the different sides.--

Please replace the paragraph beginning at page 14, line 18, with the following rewritten paragraph:

--Figs. 12 and 13 present, respectively, a [three dimensional] three-dimensional view of a pump housing 37 during rotation and a two-dimensional view highlighted according to the process of the present invention. Specifically, Fig. 13 represents a top view 48 that would be highlighted when the pump housing 37 is rotated so that the top side faces the viewer of the computer screen 32.--

Please replace the paragraph beginning at page 15, line 3, with the following rewritten paragraph:

--Referring to Fig. 14, a system [100] 120 for providing the functionality discussed above and shown in Figs. 1-13 includes an electronic drawing file 122 and a display program 124. The display program 124

uses the electronic drawing file [22] 122 and user commands to provide display data that may be shown on the computer screen 32 or printed out in a conventional manner. The electronic drawing file 122 and the display program 124 are discussed in more detail hereinafter.--

Please replace the paragraph beginning at page 15, line 9, with the following rewritten paragraph:

--In one embodiment, the electronic drawing file 122 and the display program 124 are stored together in a compressed metafile 126. The single compressed metafile 126 may then be provided to a user as a single file that, when uncompressed, includes both the display program 124 and the electronic drawing file 122. If the display program 124 is not too large, then it may be possible to [sent] send a substantial number of electronic drawings this way so that the recipient(s) always have the display program 124 for displaying the electronic drawing file 122. Compressing the electronic drawing file 122 and the display program 124 into a single compressed file 126 may be performed in any one of a number of conventional fashions using conventional software available for such purposes. In some instances, execution of the single [file] compressed metafile 126 will cause automatic decompression and execution of the display program 124.--

Please replace the paragraph beginning at page 15, line 20, with the following rewritten paragraph:

--Referring to Fig. 15, the electronic drawing file 122 is shown as including a plurality of view data records 134-136 and a tessellated model data record 138. The view data record 134, which is shown in detail, includes two-dimensional drawing data 142, a transform matrix 144 and hyperlink[s] data 146. Other view records 135[,] and 136 contain data analogous to that shown in detail for the view record 134. The tessellated model data record 138 includes data corresponding to a three-dimensional tessellated view that is generated in a conventional manner from the three-dimensional model in a manner described in more detail hereinafter in connection with the discussion regarding generation of the electronic drawing file 122.--

Please replace the paragraph beginning at page 17, line 4, with the following rewritten paragraph:

--The hyperlink data 146 contains data that links portions of the two-dimensional data 142 of some of the records 134-136 with other ones of the records. In the case of a section view, the hyperlink data 146 would contain an identification of the particular section line stored in the [two dimensional] two-dimensional data 142 and associate that information with another one of the views [135, 136] 135 and/or

136 that corresponds to the particular section line in the two-dimensional data 142. Similarly, for detail circles, the hyperlink data 146 would identify a particular item or items of the [two dimensional] two-dimensional data 142 that shows the circle in the view corresponding to the record 134 and links that information with another one of the views [135, 136] 135 and/or 136 that corresponds to the detail circle. Generation of the hyperlink data 146 is discussed in more detail hereinafter in connection with the discussion regarding generation of the electronic drawing file 122.--

Please replace the paragraph beginning at page 18, line 16, with the following rewritten paragraph:

--Following the step 156 is a [test of 158 where it is determined] test step 158 that determines whether the pointer 56 is moved by the user. Note that the user may move the pointer 56 in any one of the views where the pointer 56 is visible. Movement is accomplished in a conventional manner, such as by using the mouse to drag [and click] the pointer 56 in one of the views. If it is determined at the step 158 that the user has moved the pointer 56, then control transfers back to the step 154 where the location of the pointer 56 is recalculated in each view, using the transform matrices and other steps indicated in connection with the discussion of the step 154 above. Thus, if the user chooses to move the pointer 56 in a particular view, then the absolute location of the pointer 56 may be calculated by first applying the inverse transform matrix for that view to the relative position of the pointer 56 in the view to provide an absolute location of the pointer 56. Once the absolute location of the pointer 56 is known, then it is possible to apply the transform matrix for each view to determine the relative position of the pointer 56 in each view as discussed above.--

Please replace the paragraph beginning at page 18, line 16, with the following rewritten paragraph:

--Referring to Fig. 17, a flow chart 160 indicates the steps for implementing the virtual folding feature described in connection with Figs. 6, 7 and 8 above. At a first step 162, a first view is selected. Selection of a view can include having a user specifically click on a view after actuating the virtual folding feature. Following the step 162 is a step 164 where a second view is selected. Just as with the first view, selected in the step 162, selecting the second view can include having a user click the mouse to highlight the second view after activating the virtual folding feature. Following step 164 is a step 166 where the system displays the views together. The step 166 may be implemented in a conventional fashion by using the [two dimensional] two-dimensional drawing data for each of the views and by applying a transformation matrix to at least one of the views so that both views appear in proximity to each other on

the computer screen. Note also that, if the two views are projections of one another, the views may be snapped to horizontal or vertical alignment in accordance with conventional drafting standards, such as ANSI or ISO.--

Please replace the paragraph beginning at page 19, line 21, with the following rewritten paragraph:

--Referring to Figure 18, a flow chart 170 illustrates steps for hyperlinking a section line or detail circle of one view to another view corresponding to the section line or detail circle. Processing begins at a first step 172 where an [item] object in the current view is selected. Selecting the [item] object at the step 172 may involve having the user point the mouse to the [item] object and click on it in a conventional manner. Following step 172 is a test step 174 where it is determined if the object selected at the step 172 is a hyperlink object. Note that a hyperlink object includes objects that cause a [hyper link] hyperlink between two views, such as a section line or detail circle. As discussed above, the hyperlink information is stored with each of the views, so that determining if the selected object is a hyperlink object at the step 174 involves reviewing the hyperlink data [for view] to determine if the selected object corresponds to a hyperlink object. If it is determined at the step 174 that the selected object is not a hyperlink object, then control passes back to the step 172 to wait for selection of another object. Otherwise, if it is determined at the step 174 that the selected object is a hyperlink object, then control passes from the step 174 to a test step 176 where it is determined whether the view corresponding to the selected object is currently visible. If so, then control passes from the test step 176 to a step 178 where the view is highlighted in a conventional manner. Alternatively, if it is determined at the test step 176 that the view corresponding to the hyperlink is not currently visible, then control passes from the step 176 to a step 179 where the current view and the view corresponding to the hyperlink object are virtually folded so that the views appear together. Virtual folding is discussed above in connection with Fig. 17.--

Please replace the paragraph beginning at page 20, line 21, with the following rewritten paragraph:

--Referring to Fig. 19, a flow chart 180 illustrates steps performed in connection with the animation feature discussed above. At a first step 182, a first view is selected, as discussed above. The animation iterates through each of the views by rotating a [three] three-dimensional tessellated depiction of the model in the modeling window 40. There is no particular order required as to the selection of a view, except when hyperlinking is invoked, as discussed below.--

Please replace the paragraph beginning at page 21, line 5, with the following rewritten paragraph:

--Following step 182 is a step 184 where the [three dimensional] three-dimensional model is rotated to present the selected view. In the case of section cut, the portion of the model that is in front of the section cut is removed so that the inside portion, where the section cut is taken, is shown. Following the step 184 is a step 186 where the animated model is paused to show the user the model with the selected view facing forward. Following the step 186 is a test step 188 where it is determined whether the user has input a stop command. The user may input a stop command at any time during the animation to stop the animation process and see a particular view. If it is determined at the test step 188 that a stop command has not been entered, then control passes from the step 188 to a step 190, where a new view is selected. Following the step 190, control passes back to the step 184 where the tessellated model is rotated to the newly selected view.--

Please replace the paragraph beginning at page 21, line 16, with the following rewritten paragraph:

--Note that rotation of a three-dimensional model, in [a] particular rotation of a tessellated version of a [three dimensional] three-dimensional model, [it] is known in the art. Note also that it is possible to correlate the various [two dimensional] two-dimensional views with particular orientation of the model using the transformation matrix associated with each view.--

Please replace the paragraph beginning at page 21, line 20, with the following rewritten paragraph:

--If it is determined at the test step 188 that a stop command has been entered by the user, the control passes from a step 188 to a step 192 where the animation stops. Once the animation stops, the view remains static and the [three dimensional] three-dimensional model does not move. Following the step 192 is a test step 194, where it is determined if the user has clicked on the "go" button. If so, the control passes from a step 194 back to a step 190, where a new view is selected so that animation may continue. As discussed above, following step 190 is the step 184 where the tessellated model is rotated to the selected view.--

Please replace the paragraph beginning at page 22, line 8, with the following rewritten paragraph:

--If it is determined at the step 194 that the user has not selected the "go" button, then control passes from a step 194 to a step of 196, where it is determined whether the user has selected an object from the presented view. If [not] an object is not selected, the control passes back to the step [194] 192, discussed above. Otherwise, if it is determined at the test [of] step 196 that an object has been selected (while the animation has been stopped, as determined in the step 188), then control passes from the step 196 to the step 198 where hyperlink processing is performed. As discussed above, hyperlink processing occurs when a selected object corresponds to a section view or a detail circle in one view that correlates to another view. If the user has stopped the animation [of selected object] and selected an object, then the step 198 is performed to determine whether a hyperlink and/or virtual folding view needs to be performed. Accordingly, the process of the step 198 corresponds to the process, discussed above, in connection with the processing of Figs. 17 and 18. Following the step 198, control passes back to the step 184 to rotate the tessellated model to present the view indicated by the hyperlink and/or virtual folding view at the step 198.--

Please replace the paragraph beginning at page 23, line 1, with the following rewritten paragraph:

--Referring to Fig. 20, a schematic diagram 210 illustrates a process in which a transform program 212 creates the electronic drawing file 122 using a two-dimensional file 214 and, optionally, a three-dimensional file 216. The two-dimensional file 214 may be a conventional two-dimensional file that is generated in a conventional manner using a solid modeling program. Many solid modeling programs, such as the Solid Works program, which is available from SolidWorks Corporation of Concord, Massachusetts, have a built-in mechanism allowing the user to automatically generate a two-dimensional [drawing file, such as a file 214] file, such as the two-dimensional file 214, that includes a plurality of two-dimensional views corresponding to the solid model created by the user. In addition to the conventional two-dimensional drawing commands and plurality of views, the two-dimensional file 214 may also contain the transform matrix for each of the views that orients each of the views with respect to the solid model. Thus, at least two of the components shown in Fig. 15 and described above, the two-dimensional data 142 and the transform matrix 144, are already provided in the two-dimensional file 214.--

Please replace the paragraph beginning at page 23, line 15, with the following rewritten paragraph:

--Some of the views in the conventional two-dimensional file 214 may be section cuts or detail circles of other views. In that case, that information would also be contained in the two-dimensional file 214, since such information may be generated from a solid model and from the portions of the solid model selected by the user for sectioning and for providing detail. Thus, the hyperlink information, or information which can easily be converted to hyperlink information, is also provided in the two-dimensional file 214. That is, the hyperlink data 146 shown in Fig. 15 may be provided in [the file] two-dimensional file 214 for a two-dimensional electronic drawing or, alternatively, information which may be easily converted to hyperlink data 146 in a conventional manner may be found in the two-dimensional file 214.--